

# Factor Markets

ECON8069 - Lecture 10

Australian National University

# Factor Markets

- Unemployment
- The Labour Market
- Employment as Bargaining
- Credit Markets

Textbook: Chapter 23, Chapter 24

# Unemployment

Unemployment is a measure of the number of unemployed people in a society.

## Unemployment - Formal Definition

A person is **unemployed** if they have did less than 1 hour of paid work, or work in the family business, in the previous week AND is actively looking for work.

The **Unemployment Rate** is the proportion of those people actively looking for work who are unemployed.

- Unemployment reduces output because it means the economy has un-utilised resources

# Historical Rate of Unemployment (Australia)



# Types of People

For unemployment purposes, people fall into three categories:

- Not in the labour force (is neither working nor actively looking for work)
- In the labour force; which is divided into:
  - Employed (has worked one or more hour in the past week)
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The **participation rate** is the percentage of the adult population (15 years and over) in the labour force

The **unemployment rate** is the percentage of the labour force which is unemployed

# Issues with the Unemployment Rate

There are a few issues with using the unemployment rate as the only measure of labour under-utilisation:

- Those who would like to work more, but cannot; the **underemployed**
  - Underemployment is a continuing issue in Australia, with the rise of casual work
  - About 6.1% of workers are underemployed (March 2023)

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Unemployment is still useful for comparison purposes

# Equilibrium in the Labour Market

The labour market is a *factor market*. As such, it behaves similarly to our markets from microeconomics, but not always exactly the same.

- Demand is now driven by *firms*
  - The reason is different from goods markets
  - Firms demand labour so they can produce products to make profit
  - We call demand for labour **derived demand**
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  - The 'Marginal Benefit' is really marginal revenue (or profit)
- Labour is supplied by households
  - 'Marginal cost' is now purely opportunity cost

# Labour Demand

- Due to diminishing marginal product of labour, each worker produces less than the previous
- Even if the price of the good produced stays the same, each worker still produces reduced revenue
- Therefore, the demand curve is downward sloping

# Labour Supply

- The argument for an upward sloping supply curve is now much trickier
- As wages increase, people may choose to work more, but in certain circumstances may work less
- Empirical results suggest the Labour Supply curve is *typically* upward sloping at relevant wage rates, but not necessarily

# Equilibrium in the Labour Market

- To keep things simple we will ignore huge amounts of issues, and assume that there is an aggregate labour demand and supply curve for the whole economy
- Equilibrium occurs (as always) when the quantity of labour supplied equals the quantity of labour demanded
- The wage which makes this happen is the equilibrium wage  $w^*$
- The quantity of labour utilised is the equilibrium employment  $L^*$

# Types of Unemployment

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## Structural Unemployment

Unemployment resulting from a discrepancy between the demand for labour, and the supply of labour. Arises due to market intervention.



# Frictional Unemployment

- Frictional Unemployment is inevitable in a changing economy
- But government programs can affect frictional unemployment
  - Government services to match jobs and jobseekers
  - Public training programs
  - Unemployment benefits
    - lengthens unemployment, but
    - means people end up in better-matching jobs

# Structural Unemployment

Occurs when the wage rate is higher than the equilibrium wage rate.

Some causes of this:

- Minimum Wage Laws
- Unions and Collective Bargaining
- Efficiency Wages
- Downward Wage Rigidity

# Minimum Wage Laws

- Employers are required to pay at least the mandated minimum wage
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- Employers are required to pay at least the mandated minimum wage
- This is a *price floor* in the labour market
- Has the usual deadweight loss caused by price floors
- But; the great majority of workers receive more than the minimum wage
- For most workers the price floor is non-binding; only the least skilled and least experienced workers are effected

# Unions and Collective Bargaining

- A union is a worker association, which allows workers to negotiate as a group with employers
- Australian history: in the 1970's, more than half of workers were unionised. This number has fallen to about 15%
- Unions use **collective bargaining**, and can use **strikes** if there is no agreement
- The effect *may* be to push the wage rate above the market-clearing wage rate

# Efficiency Wages

- **Efficiency Wages** are above-equilibrium wages paid in order to encourage worker productivity
- Low income countries: higher wages allow workers to be well-fed and healthy, and thus more productive
- High income countries: attract better employees, retain those employees

# Downward Wage Rigidity

- Workers *really, really* don't like seeing their (nominal) wages fall
- Many firms would therefore prefer to fire some workers rather than lower wages
- This causes wages to stay above the market-clearing rate

# Wage Bargaining Model of Employment

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- Assumption 1: Combining an employee with a job produces some revenue/surplus
- Assumption 2: This revenue/surplus is divided between the employer and the employee, with the division decided by the *bargaining power* of the employee vs the employer

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- Assumption 2: This revenue/surplus is divided between the employer and the employee, with the division decided by the *bargaining power* of the employee
- Bargaining power includes individual traits, and outside options
- More bargaining power (of the employee) means they receive more of the surplus as wages
- More surplus means both the employee has a higher wage, and the employer has more profit
- We can graph Bargaining Power against Wage Rate



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2. The minimum wage is below the surplus, and above the bargained wage, so increases the wage (and does not cause unemployment)
3. The minimum wage is above the surplus, and causes unemployment

# Wage Bargaining and Unions

- The effect of unions in this model is to increase the bargaining power of workers
- This makes unionised workers better off, and does not cause unemployment
- Downsides may occur if the unions are so strong that the employer cannot take enough surplus to cover fixed costs



# Wage Bargaining and Downward Wage Rigidity

- The previous nominal wage rate is a very strong anchor for future negotiation
- So downward wage rigidity could be seen as existing workers having a strong bargaining position that says their wage shouldn't fall
- This may be a problem if the employer cannot take enough surplus to cover fixed costs

# Two more types of unemployment

- Natural unemployment
  - Unemployment which does not go away, even in the long-run
  - Also called the NAIRU (Non-accelerating inflation rate of unemployment)
  - When people talk about full employment, this is what they mean

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- Cyclical unemployment

- Year-to-year fluctuations in unemployment around the natural rate
- Increases during recessions, falls during booms

# Credit Markets

- The Credit Market is the market which turns savings into investment
- We keep things simple, assume there is only one market - the market for loanable funds
- Savers provide funds for this market, and borrowers use funds from the market
- As always, this is a simplification, but a useful one

# Demand for Credit

- Demand for Credit comes from small firms and individuals to start a business, buy a house, etc.
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- These people borrow **credit** and become **debtors**
- Credit is paid for by repaying the initial, or principal, plus an additional payment of interest
- We use  $i$  for the (nominal) interest rate
- Demand for credit is downward sloping as, when credit is cheaper, more investment opportunities are profitable

# Real and nominal interest rates

- The *real* price of a loan needs to include the nominal interest, and also account for inflation
- The **Fisher Equation** relates the real interest rate ( $r$ ), the nominal interest rate ( $i$ ), and inflation ( $\pi$ )

$$r = i - \pi$$

- While banks advertise in nominal terms, what's important is the real rate

# Shifts in Demand

Shifts in the demand for loans can come from:

- changes in perceived business opportunities for firms
- changes in household preferences or expectations
- changes in government policy



# Supply of Credit

- Supply of Credit comes from households and firms (private savings) and governments (public savings)
- When the interest rate increases, households have a greater incentive to save, so supply of loans increases
- Therefore, the supply of credit is upward sloping
- Shifts in supply can be caused by
  - changes in the savings motives of households
  - changes in the savings motives of firms

# The Credit Market

- Banks operate as the middle-men; linking debtors and lenders
- They also manage risk, making sure money is lent only to those who are likely to repay it
- In practice, different debtors pay different interest rates based on the likelihood of default
- The real interest rate in the economists credit market usually assumes a near-zero likelihood of default